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B8P PC2A PE5

(56) Documents Cited  
GB 2334513 A GB 0944543 A  
GB 0564069 A GB 0420908 A  
US 3807623 A US 3533547 A

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PE5  
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(54) Abstract Title  
Cartons

(57) A cardboard carton has upstanding side walls of double thickness each comprising an outer wall panel (5) hinged to the carton base (1) and an inner wall panel (6) hinged to the outer wall panel, the inner wall panel being held in position by its engagement with an extension of an adjoining side wall (2, 3) sandwiched between the said wall panels. Tabs (11) on the inner wall panel (6) may engage in slots (14) each along a fold line between the extension (15) and a tab (13) for overlying the base (1), or between an extension flap (12) doubled back over the extension (15) and the tab (13), a stabilizing flap (7) also overlying the base panel (1) in the erect condition.

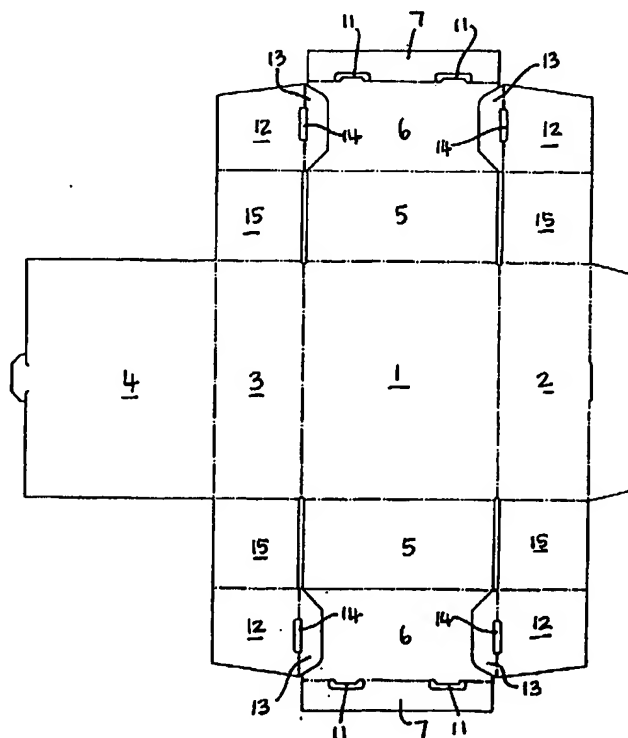


Fig. 4

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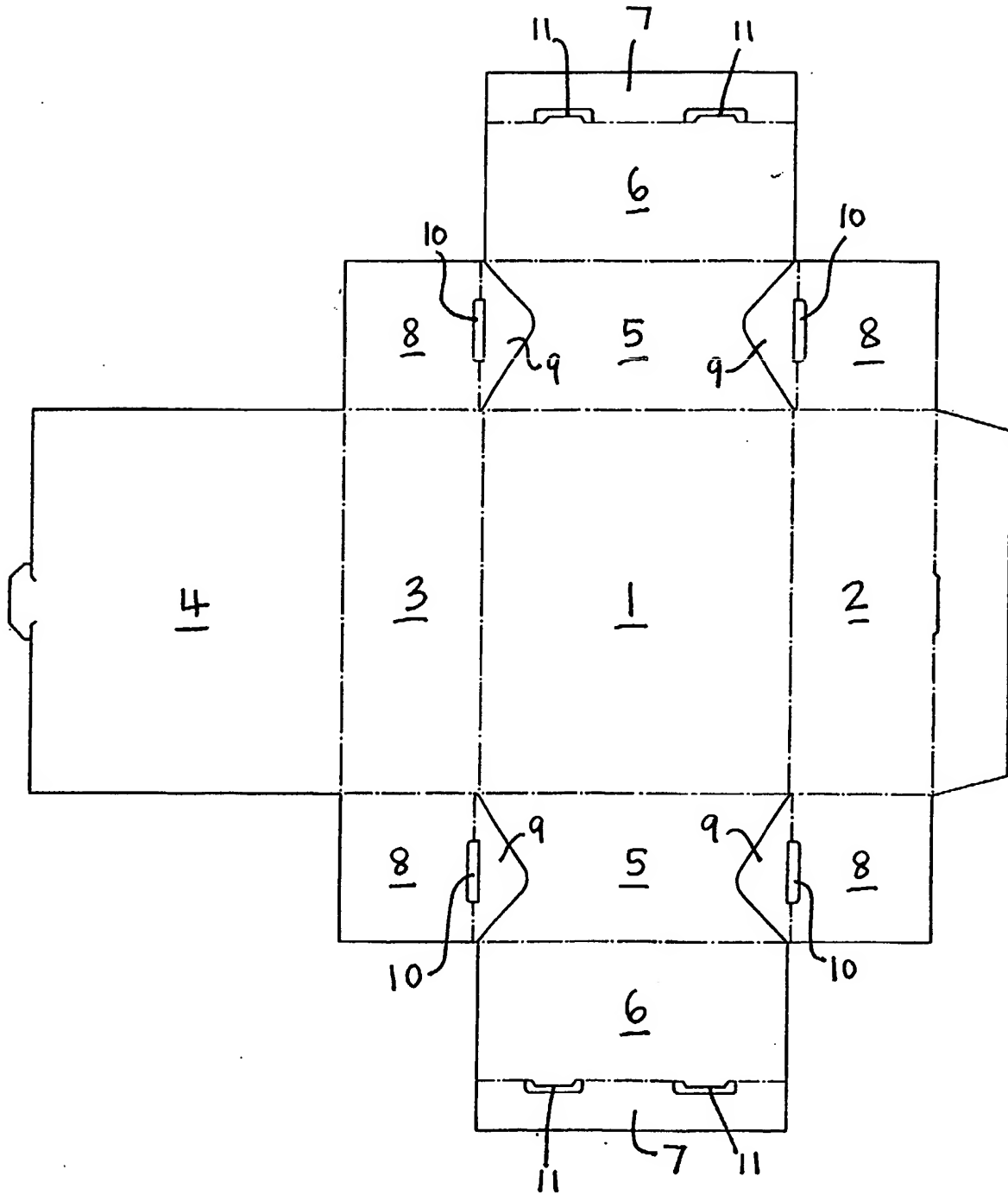


Fig. 1

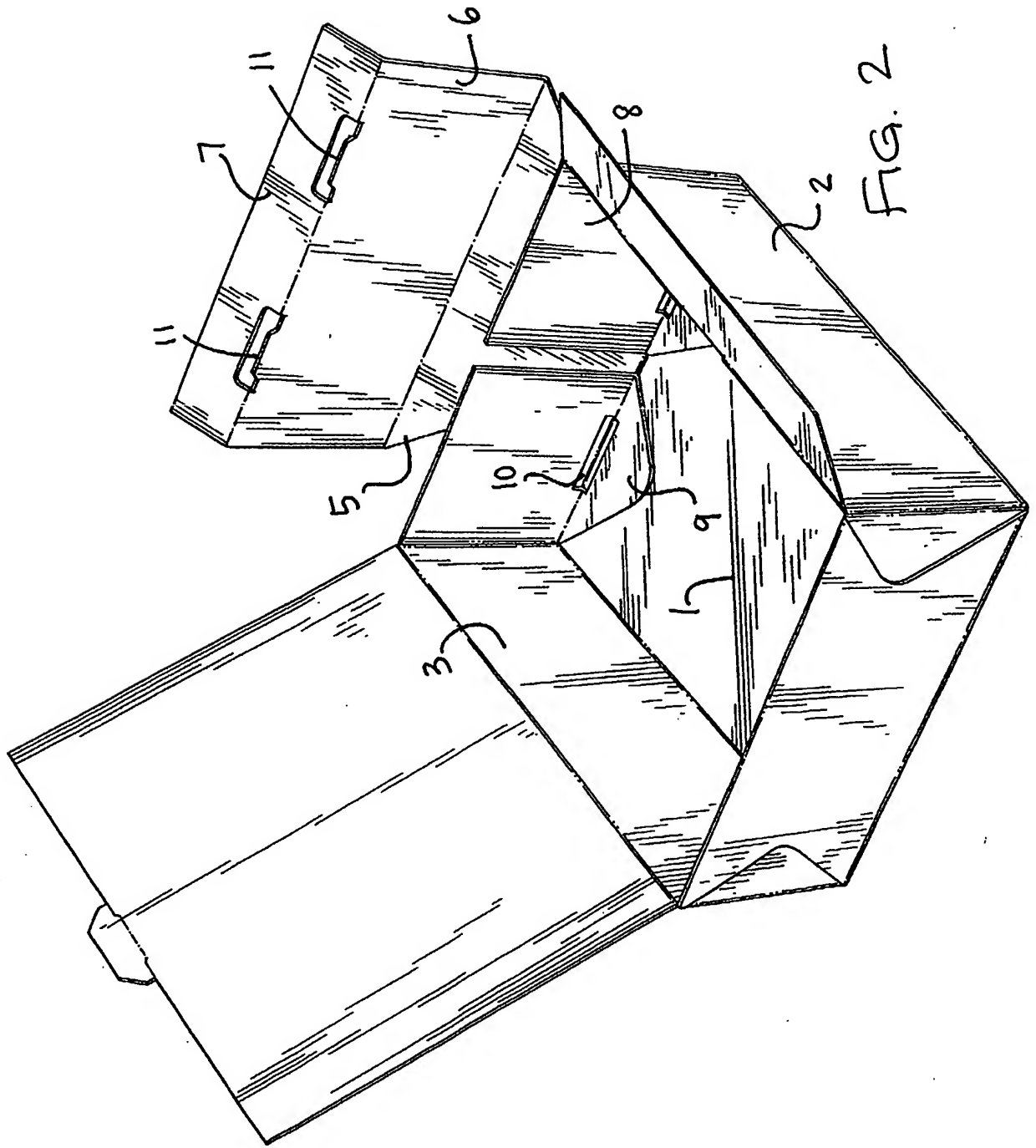


FIG. 2

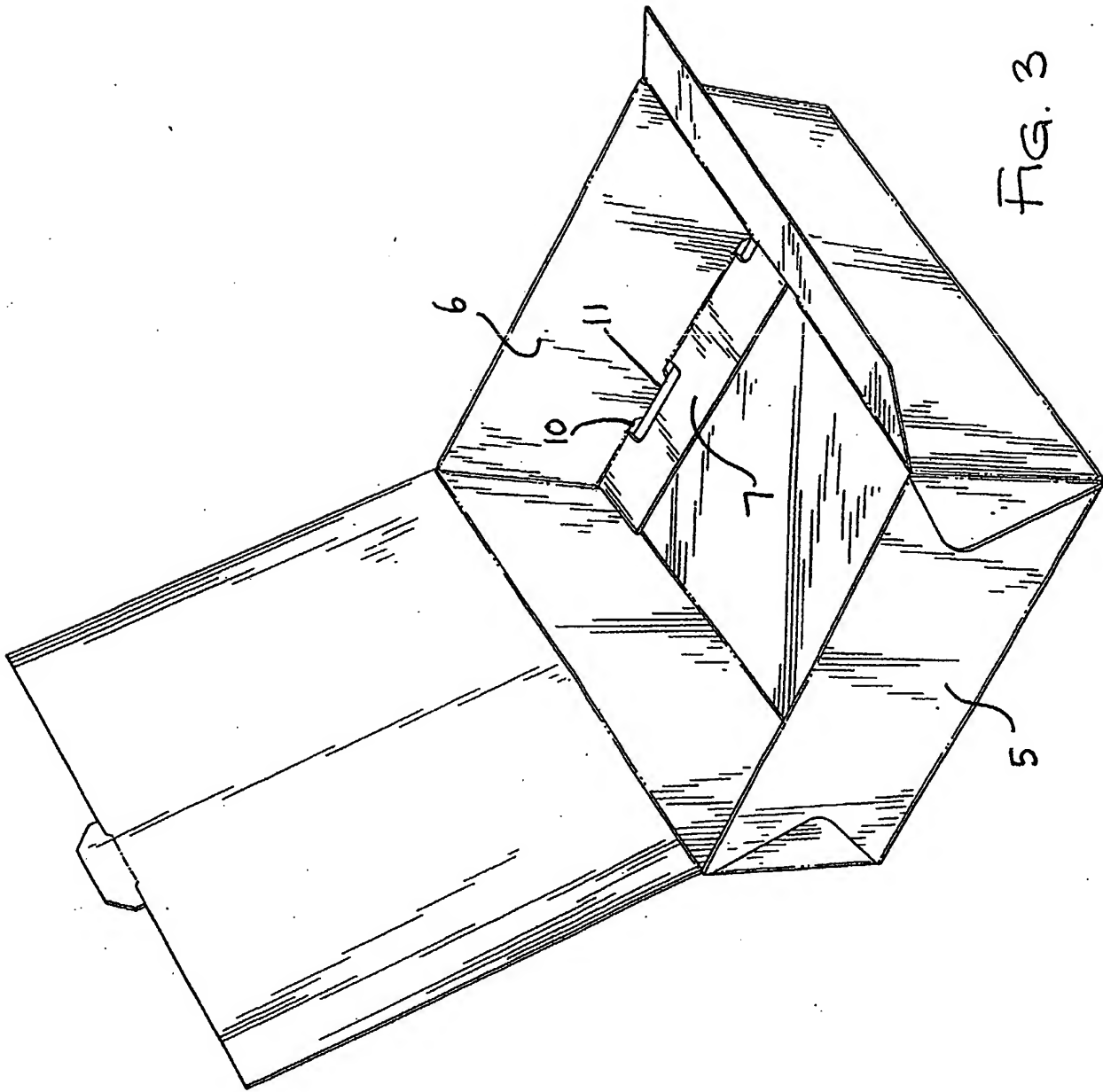


FIG. 3

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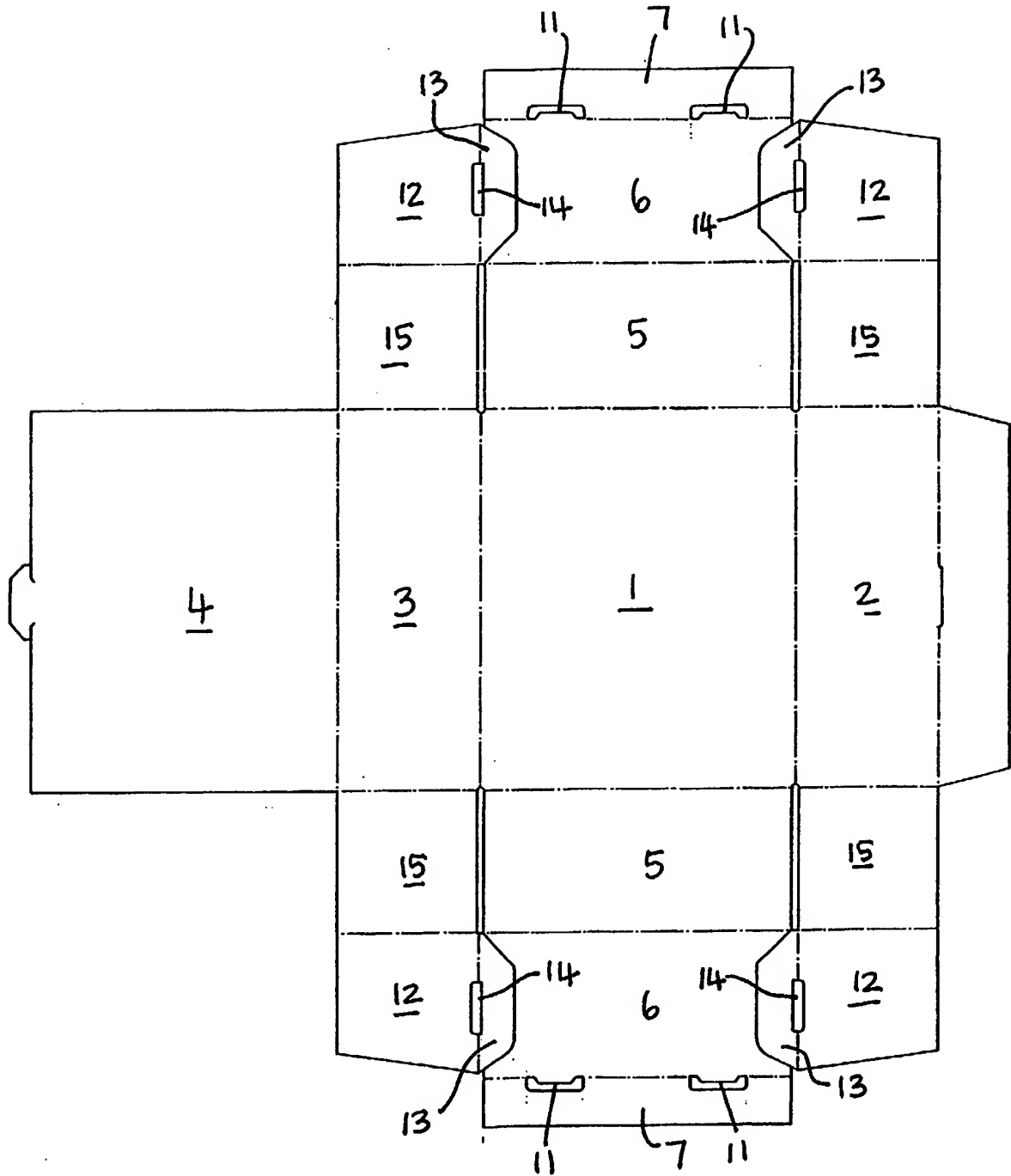


Fig. 4

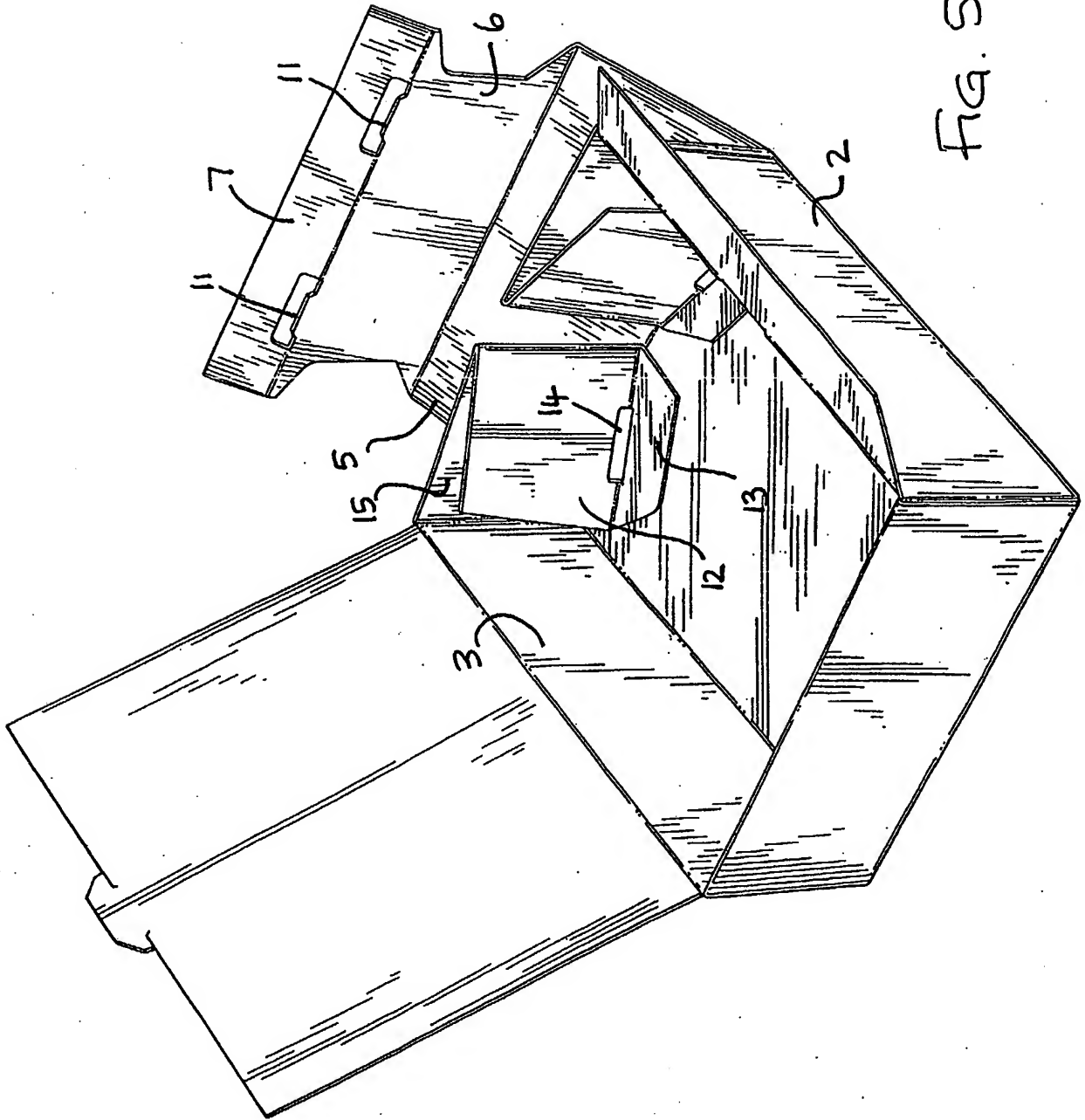


FIG. 5

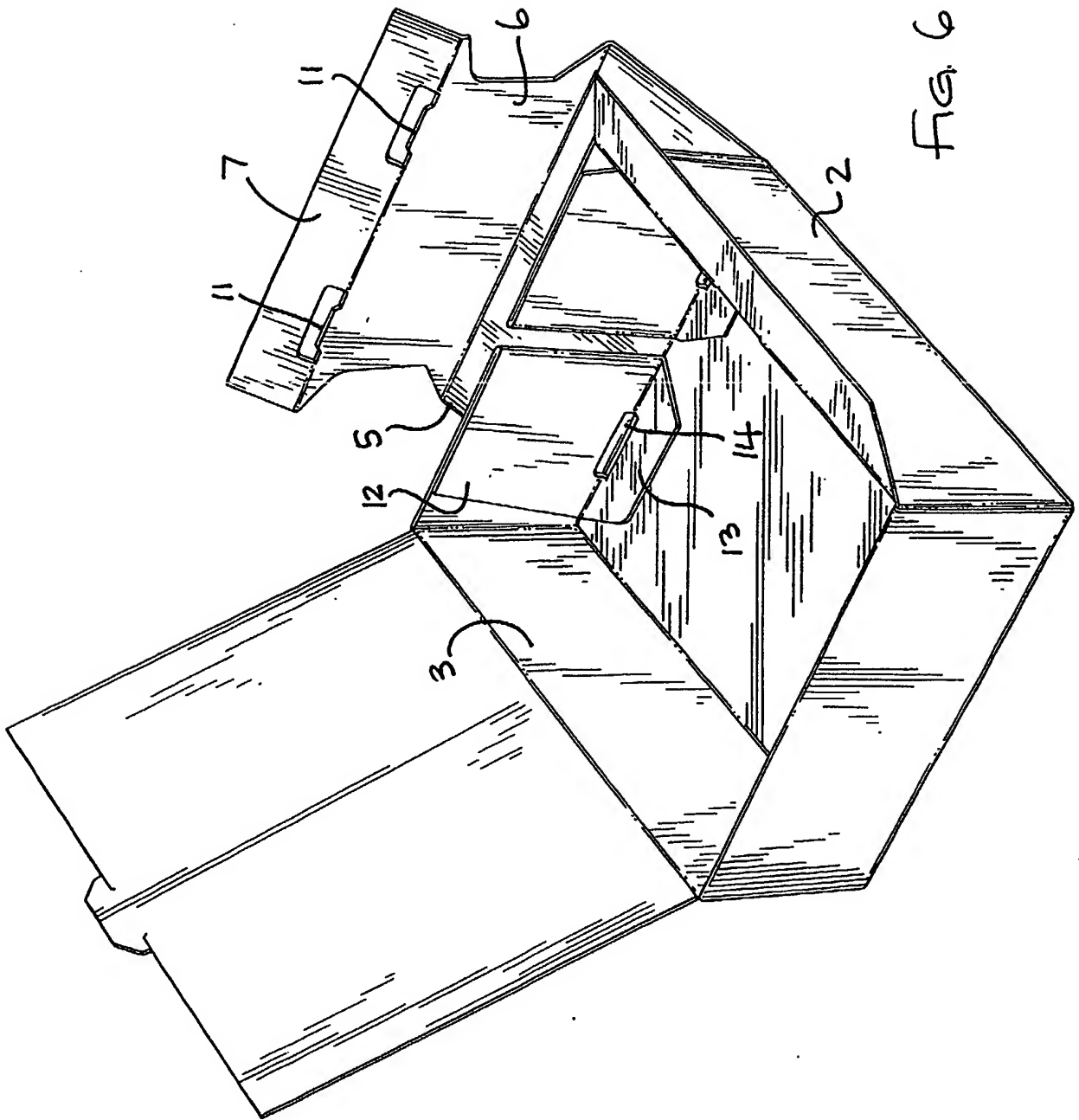


FIG. 6

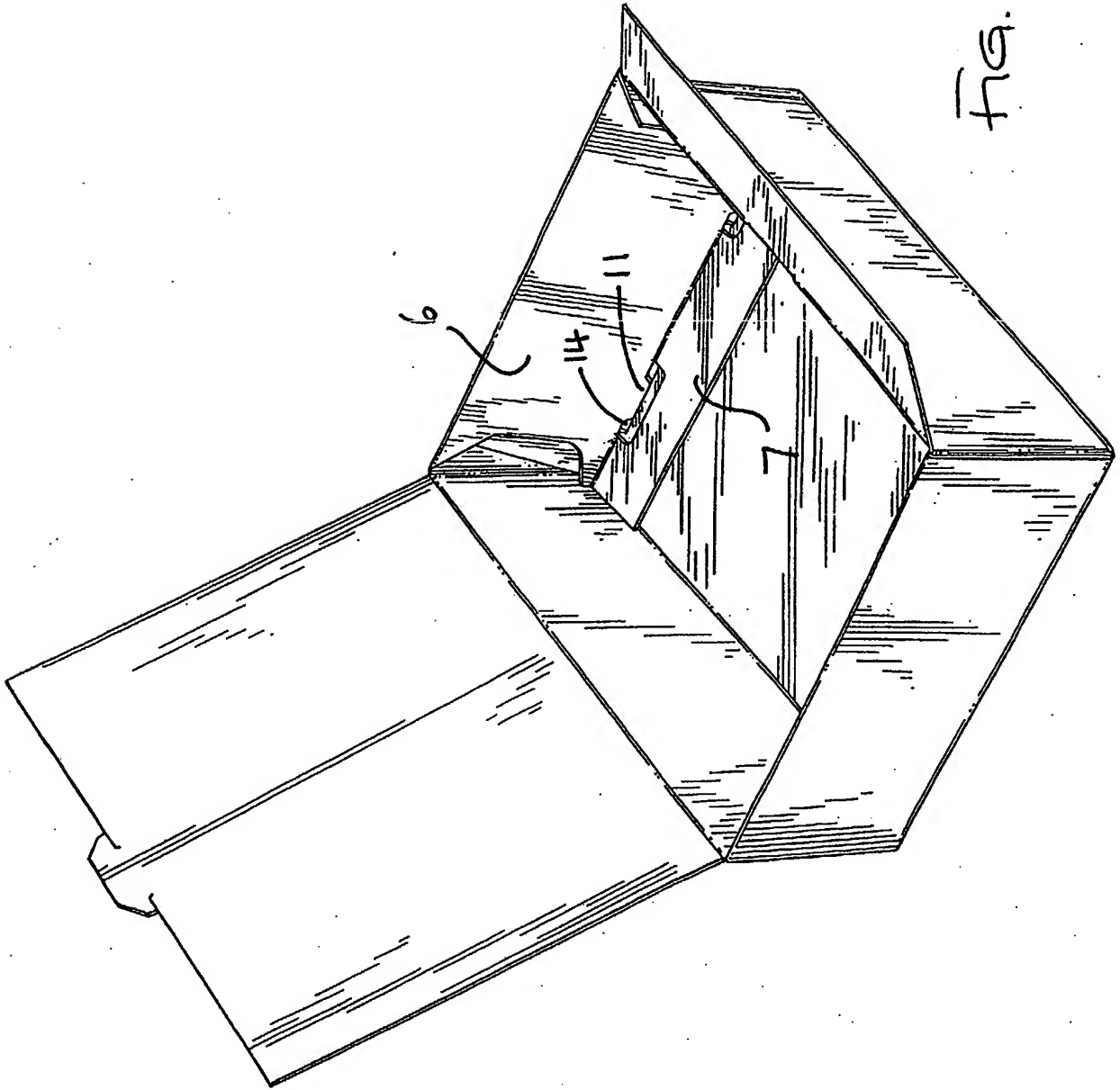


FIG. 7



# "Cartons"

5           This invention relates to cartons made of cardboard, paperboard or similar lightweight foldable sheet material.

          An upstanding side wall of such a carton is often made of double thickness by folding it over inwardly.  
10       The folded over panel may be held in its desired position, face to face with the outer panel of the wall, by providing it with a stabilising flap which is reverse folded to lie on the base of the carton, which it engages frictionally. However, this does not positively  
15       hold the wall panels together in the desired manner. A more positive hold may be achieved by providing one or more tabs on the edge of the folded over panel, which engage in slots in the base. However, this breaks up the otherwise smooth surface of the base and is  
20       unsightly. Of course, the panels may be glued together, but this is to be avoided if the carton is to be erected manually by a user.

          According to the present invention there is provided a carton made of cardboard, paperboard or  
25       similar lightweight foldable sheet material, having an upstanding side wall of double thickness comprising an outer wall panel hinged to the carton base and an inner wall panel hinged to the other wall panel, the inner wall panel being held in position by its engagement with  
30       an extension of an adjoining side wall sandwiched between the said wall panels.

          Preferably the said inner wall panel is in engagement with two of said extensions, one on each of the two side walls which adjoin the respective ends of  
35       said double thickness side wall.

          Preferably the said inner side wall panel has at least one locking tab which engages in a slot in a said

extension.

Preferably the or each said extension comprises a flap hinged to its associated side wall and sandwiched between said inner and outer wall panels, and a sub-flap  
5 hinged to said flap and overlying the carton base, said slot extending along the connection between said flap and said sub-flap.

In one form of the invention the said flap is directly hinged to its associated side wall. In an  
10 alternative arrangement the said flap is directly hinged to a connecting panel which is directly hinged to the associated side wall, said flap being doubled back on said connecting panel.

The scope of the invention also extends to blanks  
15 for making cartons as set forth above.

Two embodiments of the invention will now be described by way of example and with reference to the accompanying drawings, in which:-

Figure 1 is a plan view of a cardboard blank for  
20 making a carton according to a first embodiment;

Figure 2 is a perspective view of a carton partially erected from the blank of Figure 1;

Figure 3 is a perspective view of the fully erected carton;

25 Figure 4 is a plan view of the blank of a second embodiment; and

Figures 5 to 7 are perspective views showing successive stages in the erection of a carton from the blank of Figure 4.

30 Referring first to Figure 1, a blank for making a four sided carton with a hinged lid includes a base panel 1, front and back wall panels 2 and 3, and a lid panel 4. The two end walls of the carton are of double thickness, each comprising an outer wall panel 5 hinged  
35 to the base panel 1 and an inner wall panel 6 hinged to the panel 5. The inner wall panel 6 carries a stabilising flap 7. Thus far, the blank is of a

conventional nature.

Each of the front and back wall panels 2 and 3 has an extension flap 8 hinged to each of its ends. Each flap 8 carries a sub-flap 9 which has been cut from the adjacent outer end wall panel 5. A slot 10 is formed along the join between the flap 8 and its sub-flap 9. Locking tabs 11 are defined on the inner wall panels 6, cut out from the stabilising flaps 7.

Referring now to Figures 2 and 3, the basic manner of erection of the carton will be clear to those skilled in the art. Only those features which particularly pertain to the present invention will therefore be described in detail. The extension flaps 8 on the front back wall panels 2 and 3 are folded in at right angles to those walls, and the sub-flaps 9 thereon are folded in so as to lie on the base 1. As a result, the slots 10 extend above the underlying join between the base and the outer wall panel 5. Then, when the end walls are erected by folding up the panels 5 and folding in the inner wall panels 6 and stabilising flaps 7, the locking tabs 11 on the wall panels 6 are engageable in the slots 10, as shown in Figure 3, so as positively to hold the end wall panels together.

Referring now to the embodiment of Figures 4 to 7, this only differs from the previous embodiment in the manner in which the slots to receive the locking tabs 11 are provided. Parts which are the same as those of the previous embodiment are given the same reference numerals and will not be described again. In this embodiment the extension flaps 12 and their sub-flaps 13, formed with slots 14, are connected to the front and back walls 2 and 3 by way of connecting panels 15, instead of being connected directly, which results in the sub-flaps 13 being cut out of the inner wall panels 6 rather than out of the outer wall panels 5. As a result the cut-outs in question are no longer visible from the outside as they are in the first embodiment

(see Figures 2 and 3). The manner in which the carton is erected will be clear from Figures 5 to 7.

Both of the above described embodiments of the invention may be erected either by hand or by machine.

Claims

1. A carton made of cardboard, paperboard or similar lightweight foldable sheet material, having an  
5 upstanding side wall of double thickness comprising an outer wall panel hinged to the carton base and an inner wall panel hinged to the other wall panel, the inner wall panel being held in position by its engagement with an extension of an adjoining side wall sandwiched  
10 between the said wall panels.
2. A carton as claimed in claim 1, wherein the said inner wall panel is in engagement with two of said extensions, one on each of the two side walls which  
15 adjoin the respective ends of said double thickness side wall.
3. A carton as claimed in claim 1 or 2, wherein the said inner side wall panel has at least one locking tab  
20 which engages in a slot in a said extension.
4. A carton as claimed in claim 3, wherein the or each said extension comprises a flap hinged to its associated side wall and sandwiched between said inner and outer  
25 wall panels, and a sub-flap hinged to said flap and overlying the carton base, said slot extending along the connection between said flap and said sub-flap.
5. A carton as claimed in claim 4, wherein said flap  
30 is directly hinged to its associated side wall.
6. A carton as claimed in claim 4, wherein the said flap is directly hinged to a connecting panel which is directly hinged to the associated side wall, said flap  
35 being doubled back on said connecting panel.

7. Cartons as claimed in claim 1, substantially as hereinbefore described with reference to the accompanying drawings.

5 8. A blank for making a carton as claimed in any of claims 1 to 7.



Application No: GB 0017133.0  
 Claims searched: 1 to 8

Examiner: Mike Henderson  
 Date of search: 12 October 2000

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.R): B8P (PC2A PC2E PC2F PC2X PB2 PE5

Int Cl (Ed.7): B65D 5/20 5/22 5/30

Other: ONLINE:WPI,EPODOC,JAPIO

### Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2334513A	(BATESVILLE SERVICES INC) (Figs 5 & 6 and corresponding description most relevant)	1 to 5 & 8
X	GB 944543	(AB AHLEN & AKERLUND FORPACKNING) (Whole disclosure relevant)	1,2 & 8
X	GB 564069	(WILLIAM THYNE LTD et al) (Whole disclosure relevant)	1,2 & 8
X	GB 420908	(E S & A ROBINSON LTD et al) (Whole disclosure relevant)	1 to 3 & 8
X	US 3807623	(PAIGE) (Whole disclosure relevant)	1,2 & 8
X	US 3533547	(HOUSTON) (Figs 2 & 4 and corresponding description most relevant)	1 to 5 & 8

X Document indicating lack of novelty or inventive step  
 Y Document indicating lack of inventive step if combined with one or more other documents of same category.

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A Document indicating technological background and/or state of the art.  
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